

Memorandum

To	Travis Erny and Moriah Bucy	Page 1
CC	Mark Engdahl, Margaret Zebley, Ann Colpitts, Jay Dablow	
Subject	Monthly Remedial Action Progress Report KRY Site – October 2014	
From	Doug Brannan	
Date	November 3, 2014	

Summary of Activities for the Month:

- LTU and Dioxin/Furans Soil Repository:** Work in October consisted of: Collected grid samples from the non-comingled LTU; excavated soil below site clean-up levels for PCP from the comingled LTU and loaded into the Dioxins/Furans repository. A monthly MDEQ conference call was held. Meeting minutes were posted after the meeting to Project Direct. Other activities are provided below.
 - 10/1/14 – BNSF submitted for MDEQ review the results of the grid sampling collected from the comingled LTU on September 8, 2014 through September 12, 2014.
 - 10/3/14 – BNSF submitted for MDEQ review the results of the 10 random samples collected from the non-comingled LTU on September 23, 2014.
 - 10/10/14 – MDEQ approved the PCP LTU Operational Plan for 2014 Rev 3.

The status of sample submittals and approvals are provided in the following table:

Sample Location	Submittal to MDEQ Date	MDEQ Response Date
Comingled Grid Sampling	10/1/14	Responded 10/8/14
Non-comingled random Sampling	10/3/14	Responded 10/7/14
Comingled Grid Sampling Rev 1	10/10/14	Responded 10/10/14

This remedy component is approximately 80% complete for 2014.

- Long-term Groundwater Monitoring:** Fall sampling was conducted the week of October 13, 2014.
 - 10/14/14 - BNSF submitted the July 2014 Groundwater Sampling Report.
 - 10/27/14 – BNSF submitted the 2014 Groundwater Investigation Report.

The next groundwater monitoring event is planned for Spring 2015. This remedy component is approximately 80% complete for 2014.

- Chemical Oxidation of Groundwater:** Planning for future groundwater remediation occurred in October. This remedy component is approximately 10% complete for 2014.

4. **Free-Product Recovery (Western and Eastern KRY):** Absorbent socks were placed in KRY111A, KRY 114A, OMW-6, AMW-8, OMW-4a, and KPT-21 in January 2014 and have been monitored and changed out when saturated since that time. All absorbent socks were removed from wells during the week of July 7 to allow the wells to equilibrate prior to groundwater sampling. Absorbent socks were installed in KRY111A and KRY114 after the groundwater sampling event was complete. Absorbent socks were removed from KRY111A and KRY114A during groundwater sampling October 13, 2014. After sampling socks were installed in KRY111A, KRY114A, and AMW-8. Well MW-23 was gauged in October and product was removed from the well by total fluids extraction. LNAPL removed from MW-23 in October totaled 0.17 gallons for a total of 12.86 gallons. The LNAPL recovery activity for this remedy component is approximately 80% complete for 2014.
 - 10/22/14 – BNSF submitted a request to collect LNAPL physical properties from MW-5 and start interim LNAPL recovery.
 - 10/29/14 – MDEQ responded to LNAPL collection request from MW-5 requesting additional information.
 - 10/27/14 – Results of the MW-5 bail down test were included in the Groundwater Investigation Report.
5. **Sawdust:** Annual sampling was conducted in October. Two of the vapor monitoring points VP-1 and VP-2 were damaged. This remedy component is 80% complete for 2014.
 - 10/28/14 – BNSF notified MDEQ of the damaged vapor points via e-mail and recommended abandoning the two points.
6. **All Remedy Components:**

There is no additional information for October.

Problems Encountered and Solutions:

1. Gina Swartz did not allow AECOM to collect a groundwater sample from her well during the week of October 13, 2014. AECOM and MDEQ contacted Gina during this time to setup an alternative time for sampling and have been unsuccessful. BNSF sent Gina Swartz a letter on 10/27/14 requesting a time to sample during the week of November 3, 2014 and awaiting a response.

Communication with KRY Project Stakeholders:

1. Week of 10/13/14 – AECOM worked with Glacier Stone to access groundwater sampling locations, soil vapor sampling, and indoor air monitoring.
2. 10/27/14 – AECOM sent Gina Swartz a letter requesting a time to sample her water well during the week of November 3, 2014.

Budget Status:

This section summarizes costs by BNSF's contractors attributed to each remedy component for the period from August 2009 through September 2014. Note that the costs cover more work than described in the current progress report. The costs do not include MDEQ oversight costs. Cost for BNSF transportation has been added during this period.

ROD Remedy Component	Amount Invoiced in October for September Work	Total Amount Invoiced-to-Date
Free-Product Recovery	\$ 42,824.45	\$ 167,163.44
Sawdust Sampling	\$ -	\$ 186,694.21
Excavation, Ex-Situ Treatment, and Backfill	\$ 221,026.83	\$ 6,496,107.33
Sludge Removal	\$ -	\$ 3,574,542.56
Lead Soils Removal	\$ -	\$ 570,880.93
Free-product Removal by Excavation	\$ 214,152.22	\$ 2,415,830.32
Chemical Oxidation	\$ 51,112.66	\$ 5,350,216.00
Dioxin/Furan Soils Repository	\$ 6,272.10	\$ 3,786,182.70
MNA and Site-Wide Elements	\$ -	\$ 293,750.11
TOTAL	\$ 535,388.26	\$ 22,841,367.60

Anticipated Activities, Milestones and Deadlines for November 2014:

2. **LTUs/ Dioxin Repository:** Operational activities in November are expected to include: soil removal, grading, ripping and collecting 10 random samples from the comingled LTU. Installation of a permanent and temporary cap on the repository. There will also be data validation and submittal preparation of the non-comingled grid sampling and comingled random sampling.
3. **Long-term Monitoring:** Submittal of the Long Term Groundwater Sampling Plan. Submittal of the fall groundwater sampling data and preparation of the report.
4. **Chemical Oxidation:** Evaluate results of groundwater investigation and plan for 2015 groundwater remedy.
5. **Free Product Recovery (Western and Eastern KRY):** Western KRY, continue to monitor absorbent socks in KRY111A, KRY 114A, and AMW-8; and remove when saturated. Total fluids extraction in MW-23 during November and store fluids in a drum on secondary containment in the blue conex. Submit Eastern LNAPL investigation results report. Prepare a plan to manage LNAPL near MW-5.
6. **Sawdust:** Submit methane monitoring report.
7. **All Remedy Components:** Prepare for team meeting.

Summary of Recently Submitted Reports to MDEQ by BNSF Awaiting MDEQ Response

Date	Report Title
6/28/12	Phase 1 In Situ Chemical Oxidation Report (ERM)
10/14/14	KRY July 2014 Groundwater Sampling Report (AECOM)
10/16/14	Construction Completion Report (AECOM)
10/27/14	KRY 2014 Groundwater Investigation Report (AECOM)